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CHRISTENSEN, O'CONNOR, JOHNSON, KINDNESS, PLLC			EXAMINER -		
SUITE 2800				ABEL JALIL, NEVEEN	
SEATTLE, V	SEATTLE, WA 98101-2347		ART UNIT	PAPER NUMBER	
			2175	C	
			DATE MAILED: 09/11/2003		

Please find below and/or attached an Office communication concerning this application or proceeding.

•		Application No.	icant(s)			
Office Action Summary		09/672,675	THOMPSON, R. DONALD			
		Examiner	Art Unit			
		Neveen Abel-Jalil	2175			
	The MAILING DATE of this communication ap					
	P riod for Reply					
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely. - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). - Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).						
Status		•				
1)	Responsive to communication(s) filed on					
2a)	,	his action is non-final.				
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.						
Disposition of Claims						
4)🖂	Claim(s) $\underline{1-28}$ is/are pending in the applicatio	n.				
4a) Of the above claim(s) is/are withdrawn from consideration.						
5)	Claim(s) is/are allowed.	•				
6)⊠	Claim(s) <u>1-28</u> is/are rejected.					
7)	Claim(s) is/are objected to.		·			
8) Claim(s) are subject to restriction and/or election requirement.						
Application Papers						
9)☐ The specification is objected to by the Examiner.						
10)☐ The drawing(s) filed on is/are: a)☐ accepted or b)☐ objected to by the Examiner.						
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).						
11)☐ The proposed drawing correction filed on is: a)☐ approved b)☐ disapproved by the Examiner.						
If approved, corrected drawings are required in reply to this Office action.						
12) The oath or declaration is objected to by the Examiner.						
Priority under 35 U.S.C. §§ 119 and 120						
13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).						
a)[☐ All b)☐ Some * c)☐ None of:					
	1. Certified copies of the priority documen					
	2. Certified copies of the priority documen	• •				
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 						
14) 🗌 A	cknowledgment is made of a claim for domes	tic priority under 35 U.S.C. § 119(e) (to a provisional application).			
a) The translation of the foreign language provisional application has been received. 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121000 popovici						
Attachment(s) SUPERVISORY PATENT EXAMINER						
2) Notic	e of References Cited (PTO-892) e of Draftsperson's Patent Drawing Review (PTO-948) nation Disclosure Statement(s) (PTO-1449) Paper No(s) <u>i</u>	5) Notice of Informal I	(PTO TECHNOLOGY, GENTER 2100 Patent Application (PTO-152)			
I.S. Patent and Ti	rademark Office		<u> </u>			



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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 17-18, and 22-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Hertz (U.S. Pub. No. 2003/0037041 A1).

As to claim 17, <u>Hertz</u> discloses a method in a computer system for correlating a payload with a subset of attributes for selecting a payload set (See pages 13-14, paragraph 017, and pages 13-14, paragraph 0147), the method comprising:

generating an expression tree having multiple levels corresponding to the subset of attributes (See pages 31-32, paragraphs 0320-0323):

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mapping the expression tree into an evaluation tree (See page 7, paragraph 0099; and correlating the expression tree into the catalog (See page 16, paragraph 0172).

As to claim 18, <u>Hertz</u> discloses optimizing the expression tree prior to mapping the expression tree into an evaluation tree (See page 27, paragraph 0286, also see page 29, paragraph 0301).

As to claim 22, <u>Hertz</u> discloses a computer-readable medium having computer-executable instructions for performing steps recited in any one of Claims 17-21 (See page 19, paragraph 0187).

As to claim 23, <u>Hertz</u> discloses a computer system having a processor and memory in an operating environment, the computer system for performing the steps recited in any one of Claims 17-21 (See page 19, paragraph 0187).

Claim Rejections - 35 USC § 103

- 3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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4. Claims 1-16, 19-21, and 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hertz (U.S. Pub. No. 2003/0037041 A1) in view of Chaudhuri et al. (U.S. Patent No. 5,806,061).

As to claim 1, <u>Hertz</u> discloses a method in the computer system for correlating a subset of attributes to one or more payloads (See page 7, paragraphs 0101-0102), the method comprising:

obtaining a request for payload corresponding to a subset of client attributes (See page 37, paragraphs 0378-0379, also see page 15, paragraphs 0163-0164);

wherein the catalog includes an attribute list, an evaluator list, a value list and a payload list (See page 7, paragraph 0099, also page 9, paragraph 0108, also see page 19, paragraph 0187, wherein "catalog" reads on "database");

traversing the catalog to determine one or more payloads corresponding to the subset of client attributes (See page 20, paragraph 0193, also see page 34, paragraph 0346, also see page 37, paragraphs 0377-0378); and

returning the one or more payloads (See page 32, paragraph 0326).

Herz does not teach obtaining one or more payloads, wherein each payload defines a condition statement for delivering the payload; correlating the condition statement into a catalog.

<u>Chaudhuri et al.</u> teaches obtaining one or more payloads, wherein each payload defines a condition statement for delivering the payload (See column 12, lines 25-67);

correlating the condition statement into a catalog (See figure 2, 10, store objects in repository, 20 define filter condition of search).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified <u>Herz</u> to include obtaining one or more payloads, wherein each payload defines a condition statement for delivering the payload, correlating the condition statement into a catalog.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Herz by the teaching of Chaudhuri et al. to include obtaining one or more payloads, wherein each payload defines a condition statement for delivering the payload, correlating the condition statement into a catalog because filtering payloads by specific condition statement allows for more efficient pattern matching and query retrieval.

As to claim 2, <u>Hertz</u> as modified discloses wherein the step of correlating the condition statement into a catalog (See page 16, paragraph 0172) includes:

generating an expression tree corresponding to the condition statement (See <u>Chaudhuri et al.</u> column 14, lines 28-51);

mapping the expression tree into an evaluation tree (See <u>Chaudhuri et al.</u> column 15, lines 56-67, also see <u>Hertz</u> page 7, paragraph 0099), and

mapping the evaluation tree into the catalog (See <u>Chaudhuri et al.</u> column 22, lines 55-62, wherein "catalog" reads on "repository", also see <u>Hertz</u> page 4, paragraphs 0019-0020).

As to claim 3, <u>Hertz</u> as modified discloses comprising optimizing the expression tree prior to mapping the expression tree into an evaluation tree (See page 27, paragraph 0286, also see page 29, paragraph 0301).

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As to claim 4, <u>Herz</u> as modified discloses organizing the expression tree such that an attribute evaluator value expression is a leaf node and a connector is a tree node (See pages 31-32, paragraphs 0320-0323);

scoring any tree nodes (See page 15, paragraph 0163), wherein a disjunctive tree node score equals the sum of its subtree (See <u>Chaudhuri et al.</u> column 10, lines 2-20, wherein "score" reads on "grade", also see <u>Chaudhuri et al.</u> column 9, lines 10-43, also see <u>Herz</u> page 39, paragraph 0386), wherein a conjunctive tree node score equals the product of its subtree (See <u>Chaudhuri et al.</u> column 11, lines 2-30, also see <u>Herz</u> page 27, paragraphs 0286-0288, also see <u>Herz</u> page 16, paragraph 0172), and wherein each leaf node score equals one (See <u>Chaudhuri et al.</u> column 6, lines 51-67, also see <u>Chaudhuri et al.</u> column 4, lines 39-63); and

for each level of the expression tree, organizing the nodes such that a right-most node has the highest score (See <u>Chaudhuri et al.</u> column 16, lines 33-67, and see <u>Chaudhuri et al.</u> column 17, lines 1-17, wherein "score" reads on "grade", also see <u>Herz</u> page 38, paragraph 0384).

As to claim 5, <u>Hertz</u> as modified disclose the step of mapping the expression tree into an evaluation tree (See page 7, paragraph 0099, also see page 8, paragraph 0103 and paragraph 0107) includes:

placing a lowest scoring leaf node as a topmost node of the evaluation tree (See page 32, paragraph 0325, also see pages 32-331-0335, also see page 14, paragraph 0158);

placing conjunctive operations as right tree nodes (See <u>Chaudhuri et al.</u> column 13, lines 23-50, also see <u>Chaudhuri et al.</u> column 10, lines 35-59);

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placing disjunctive operations as left tree nodes (See <u>Chaudhuri et al.</u> column 13, lines 55-67); and

traversing the expression tree until each leaf node within the expression tree is mapped into the evaluation tree (See <u>Chaudhuri et al.</u> column 14, lines 1-18).

As to claim 6, <u>Hertz</u> as modified discloses wherein the step of mapping the expression tree into the catalog (See page 16, paragraph 0172) includes:

storing a first attribute in the attribute list; storing one or more evaluators corresponding to the first attribute in the evaluator list (See pages 13-14, paragraph 017, and pages 13-14, paragraph 0147);

storing one or more values corresponding to each of the first attribute evaluators in a value list (See pages 13-14, paragraph 0147); if any conjunctions exist (See page 37, paragraph 0377-0378, also see <u>Chaudhuri et al.</u> column 13, lines 38-57),

storing one or more identifiers of attribute evaluation value pairs corresponding to the first attribute value (See pages 13-14, paragraph 0147); and

if any payloads exist, storing one or more payloads corresponding to the first attribute value (See page 15, paragraph 0163, also see page 7, paragraph 0099).

As to claim 7, <u>Hertz</u> as modified discloses further comprising repeating the steps of storing data in the attribute list, the evaluator list (See pages 3-4, paragraphs 016-017, also see page 14, paragraph 0157, also see page 15, paragraph 0163), the conjunction list, and the value

list for any conjunction listed in the first attribute conjunction list (See page 37, paragraph 0377-0378, also see <u>Chaudhuri et al.</u> column 13, lines 38-57).

As to claim 8, <u>Hertz</u> as modified discloses comprising repeating the steps of storing data in the attribute list, the evaluator list (See pages 3-4, paragraphs 016-017, also see page14, paragraph 0157, also see page 15, paragraph 0163), the conjunction list, and the value list for a second attribute in the evaluation tree (See <u>Chaudhuri et al.</u> column 13, lines 38-57, also see <u>Chaudhuri et al.</u> column 5, lines 35-62, also see <u>Chaudhuri et al.</u> column 8, lines 29-67, wherein "list" reads on "index").

As to claim 9, <u>Hertz</u> as modified discloses comprising repeating the steps of storing data in the attribute list, the evaluator list (See pages 3-4, paragraphs 016-017, also see page 14, paragraph 0157, also see page 15, paragraph 0163), the conjunction list, and the value list for attribute evaluator value pairs identified the first attribute conjunction list, wherein the step of storing data in an attribute list is done on a separate catalog data structure (See <u>Chaudhuri et al.</u> column 13, lines 38-57, also see <u>Chaudhuri et al.</u> column 5, lines 35-62, also see <u>Chaudhuri et al.</u> column 8, lines 29-67, wherein "data structure" reads on "repository").

As to claim 10, <u>Hertz</u> as modified discloses wherein the attribute list is a master attribute list having a size less than all the possible attributes (See page 26, paragraph 0261, also see page 28, paragraphs 0295-0297, also see page 33, paragraph 0334, and page 14, paragraph 0158).

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As to claim 11, <u>Hertz</u> as modified discloses wherein the step traversing the catalog to determine one or more payloads corresponding to the subset of client attributes (See pages 13-14, paragraphs 0147-0149, also see page 14, paragraphs 0157-0158) includes:

obtaining a first attribute from the subset of client attributes;

if the first attribute is found in the attribute list (See page 7, paragraph 0099, also page 9, paragraph 0108, also see page 19, paragraph 0187), obtaining an evaluator from the evaluator list and a value from the value list, wherein the evaluator and value form an evaluator/value set (See pages 13-14, paragraphs 0147-0149);

if the first attribute satisfies the evaluator/value set, determining whether a conjunction and a payload exist (See page 12, paragraph 0131, also see page 12, paragraph 0134);

if a conjunction exists, repeating the steps with a corresponding attribute identified in the conjunction (See Chaudhuri et al. column 5, lines 52-67); and

if a payload exists, adding the payload to a master payload list (See page 32, paragraph 0326).

As to claim 12, <u>Hertz</u> as modified discloses comprising repeating the steps until the last evaluator in the first attribute evaluation list is examined (See page 14, paragraph 0157, also see page 15, paragraph 0163).

As to claim 13, <u>Hertz</u> as modified discloses wherein the repeating step is done on a separate catalog data structure (See page 16, paragraph 0172, also see page 19, paragraph 0187).

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As to claim 14, <u>Hertz</u> as modified discloses wherein the payload set is advertisement media and wherein the client attributes are client profile data attributes (See page 6, paragraph 0076, also see page 9, paragraph 0112, also see page 7, paragraph 0101).

As to claim 15, <u>Hertz</u> as modified discloses a computer-readable medium having computer-executable instructions for performing the steps recited in any one of Claims 1-14 (See page 19, paragraph 0187).

As to claim 16, <u>Hertz</u> as modified discloses a computer system having a processor, a memory, and an operating environment, the computer system operable for performing the steps recited in any one of Claims 1-14 (See page 19, paragraph 0187).

As to claim 19, <u>Herz</u> discloses organizing the expression tree such that an attribute evaluator value expression is a leaf node and a connector is a tree node (See pages 31-32, paragraphs 0320-0323);

scoring any tree nodes (See pages 13-14, paragraph 0147), and wherein each leaf node score equals one (See pages 9-10, paragraph 0114), and

for each level of the expression tree, organizing the nodes such that a right-most node has the highest score (See pages 7-8, paragraphs 103-104, also see page 15, paragraph 0163, and page 38, paragraph 0384).

Herz does not teach wherein a disjunctive tree node score equals the sum of its subtree, wherein a conjunctive tree node score equals the product of its subtree.

<u>Chaudhuri et al.</u> teaches wherein a disjunctive tree node score equals the sum of its subtree (See <u>Chaudhuri et al.</u> column 10, lines 2-20, wherein "score" reads on "grade", also see <u>Chaudhuri et al.</u> column 9, lines 10-43), wherein a conjunctive tree node score equals the product of its subtree (See <u>Chaudhuri et al.</u> column 11, lines 2-30).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified <u>Herz</u> to include wherein a disjunctive tree node score equals the sum of its subtree, wherein a conjunctive tree node score equals the product of its subtree.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Herz by the teaching of Chaudhuri et al. to include wherein a disjunctive tree node score equals the sum of its subtree, wherein a conjunctive tree node score equals the product of its subtree because computing and assigning scores to matching patterns allows for efficient data storage and retrieval and more accurate query matching.

As to claim 20, <u>Hertz</u> does not teach the step of mapping the expression tree into an evaluation tree includes:

placing a lowest scoring leaf node as a topmost node of the evaluation tree;

placing conjunctive operations as right tree nodes;

placing disjunctive operations as left tree nodes; and

traversing the expression tree until each leaf node within the expression tree is mapped into the evaluation tree.

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<u>Chaudhuri et al.</u> teaches the step of mapping the expression tree into an evaluation tree includes:

placing a lowest scoring leaf node as a topmost node of the evaluation tree (See Chaudhuri et al. column 11, lines 1-45, also see Chaudhuri et al. column 18, lines 19-51);

placing conjunctive operations as right tree nodes (See Chaudhuri et al. column 13, lines 23-50, also see Chaudhuri et al. column 10, lines 35-59);

placing disjunctive operations as left tree nodes (See <u>Chaudhuri et al.</u> column 13, lines 55-67); and

traversing the expression tree until each leaf node within the expression tree is mapped into the evaluation tree (See <u>Chaudhuri et al.</u> column 14, lines 1-18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified <u>Herz</u> to include the step of mapping the expression tree into an evaluation tree includes: placing a lowest scoring leaf node as a topmost node of the evaluation tree; placing conjunctive operations as right tree nodes; placing disjunctive operations as left tree nodes; and traversing the expression tree until each leaf node within the expression tree is mapped into the evaluation tree.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Herz by the teaching of Chaudhuri et al. to include the step of mapping the expression tree into an evaluation tree includes: placing a lowest scoring leaf node as a topmost node of the evaluation tree; placing conjunctive operations as right tree nodes; placing disjunctive operations as left tree nodes; and traversing the expression tree until each leaf

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node within the expression tree is mapped into the evaluation tree because traversing the tree from bottom-up allows for efficient database search results thereby reducing in processing time.

As to claim 21, <u>Hertz</u> discloses wherein the step of correlating the expression tree into a catalog includes:

storing a first attribute in the attribute list (See pages 3-4, paragraphs 16-17);

storing one or more evaluators corresponding to the first attribute in evaluator list (See page 7, paragraph 0099, also page 9, paragraph 0108, also see page 19, paragraph 0187, wherein "storing" reads on "database");

storing one or more values corresponding to each of the one or more first attribute evaluators in the value list (See page 7, paragraph 0099, also page 9, paragraph 0108, also see page 19, paragraph 0187, wherein "storing" reads on "database");

if any payloads exist, storing one or more payloads corresponding to the first attribute (See page 14, paragraphs 0149-0153).

Herz does not teach if any conjunctions exist, storing one or more identifications of attributes corresponding to the first attribute.

<u>Chaudhuri et al.</u> teaches if any conjunctions exist, storing one or more identifications of attributes corresponding to the first attribute (See column 5, lines 52-67, also see column 8, lines 20-41).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified <u>Herz</u> to include if any conjunctions exist, storing one or more identifications of attributes corresponding to the first attribute.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Herz by the teaching of Chaudhuri et al. to include if any conjunctions exist, storing one or more identifications of attributes corresponding to the first attribute because storing matching attributes in repository allows for faster processing time and more efficient pattern matching and data retrieval.

As to claim 24, <u>Hertz</u> discloses a computer-readable medium having computer-executable (See page 19, paragraph 0187) modules for correlating payloads with a condition statement for delivering the payload (See pages 19-20, paragraph 0190), the modules comprising:

a master attribute module for storing a list of attributes (See page 8, paragraph 0104, also see page 6, paragraph 064);

an evaluator module, dynamically linked to the attribute module, and containing evaluators corresponding to each attribute in the attribute list (See page 7, paragraph 099, also see pages 10-11, paragraph 0123);

a value module, dynamically linked to the evaluator module, and containing values corresponding to each evaluator in the evaluation module (See pages 10-11, paragraphs 0122-0123);

a payload module, dynamically linked to the value module (See page 30, paragraph 0312, also see page 28, paragraph 0291), and containing payload sets corresponding to each value in the value module, wherein the payload module may be empty (See page 29,m paragraph 0304, also see page 30, paragraph 0310).

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Herz does not teach a conjunction module dynamically linked to the value module and containing conjunction sets corresponding to each value in the value module, wherein the conjunction list may be empty.

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<u>Chaudhuri et al.</u> teaches a conjunction module dynamically linked to the value module and containing conjunction sets corresponding to each value in the value module (See column 5, lines 52-67), wherein the conjunction list may be empty (See column 15, lines 2-9, also see column 17, lines 6-63).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified <u>Herz</u> to include a conjunction module dynamically linked to the value module and containing conjunction sets corresponding to each value in the value module, wherein the conjunction list may be empty.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified <u>Herz</u> by the teaching of <u>Chaudhuri et al.</u> to include a conjunction module dynamically linked to the value module and containing conjunction sets corresponding to each value in the value module, wherein the conjunction list may be empty because storing and linking matching attributes values in repository allows for faster processing time and more efficient pattern matching and data retrieval.

As to claim 25, <u>Hertz</u> as modified discloses comprising one or more attribute modules for storing additional attributes (See page 14, paragraph 0157, also see page 15, paragraph 0163).

As to claim 26, <u>Hertz</u> as modified discloses wherein the master attribute module list contains less than all the possible attributes (See page 37, paragraph 0378, also see pages 29-30, paragraph 0307).

As to claim 27, <u>Hertz</u> as modified discloses wherein the payload set is advertisement content and when the attributes are client profile data attributes (See page 6, paragraph 0076, also see page 9, paragraph 0112, also see page 7, paragraph 0101).

As to claim 28, <u>Hertz</u> as modified discloses a communication medium embodying the computer-readable medium as recited in Claim 25 (See page 19, paragraph 0187).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Johnson et al. (U.S. Patent No. 6,334,125 B1) teaches method for loading data into a cube forest data structure.

Bharat et al. (U.S. Patent No. 6,411,952 B1) teaches method for learning character patterns to interactively control the scope if a web crawler.

Johnson et al. (U.S. Patent No. 6,424,967 B1) teaches method for querying a cube forest data structure.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neveen Abel-Jalil whose telephone number is 703-305-8114. The examiner can normally be reached on 8:00AM-4: 30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on 703-305-3830. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Neveen Abel-Jalil

SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100